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How will your garden grow?

9 July 2009

Gardeners at the Royal Horticultural Society are already taking the challenges of climate change seriously as new results from the Met Office show how their gardens around England may be affected.

The biggest challenge likely to face gardeners everywhere is water management as rainfall is likely to fall by around one fifth by the middle of the century, leading to an increased risk of summer droughts. Conversely winter rainfall is likely to increase by around 15%.

These changes in rainfall will mean that gardeners at Rosemoor in Devon, Wisley in Surrey, Hyde Hall in Essex and Harlow Carr in North Yorkshire will need to continue their efforts to conserve water in the summer months and store extra rainfall from the winter.

Chris Bailes, Curator at RHS Rosemoor, said: "In common with gardeners everywhere we're continually adapting to the changes we experience, trying new plants to reduce the need for water in hotter, drier summers, while also taking advantage of warmer temperatures to grow subjects previously considered too tender."

Changes in temperatures are also likely to present opportunities and threats to often historic RHS gardens. On average, summer temperatures will increase by around 2 °C, whilst the hottest day of the summer is likely to increase by 2-3 °C.

Winters are expected to become less cold with the coldest night in winter likely to be 2- 3 °C milder, bringing with it fewer frosts.

Chris Bailes continued: "Climatic extremes arising from global warming will test our plants, increasing stress and the incidence of diseases and other problems. Warmer winters are bringing challenges now, especially in milder gardens, where plants coaxed into early growth are exposed to damage from frosts less severe than those of twenty years ago."

How the weather will change								
	Summer rainfall		Winter rainfall		Average temperature for the hottest day in summer		Average temperature for the coldest night in winter	
RHS Garden	Now	Change by 2050	Now	Change by 2050	Now	Change by 2050	Now	Change by 2050
Harlow Carr, North Yorkshire	201 mm	164 mm down 19%	219 mm	243 mm up 11%	27.0 °C	29.0 °C up 2.0 °C	-9.1 °C	-6.1 °C up 3.0 °C
Hyde Hall, Essex	155 mm	128 mm down 17%	144 mm	165 mm up 14%	29.4 °C	31.6 °C up 2.2 °C	-8.3 °C	-5.7 °C up 2.5 °C
Rosemoor, Devon	201 mm	161 mm down 20%	305 mm	358 mm up 17%	28.4 °C	31.0 °C up 2.7 °C	-7.5 °C	-5.6 °C up 1.9 °C
Wisley, Surrey	162 mm	131 mm down 19%	204 mm	237 mm up 16%	29.8 °C	32.1 °C up 2.3 °C	-8.7 °C	-5.9 °C up 2.8 °C

These latest figures come from the UK Climate Projections 2009, underpinned by the Met Office Hadley Centre to provide the world's most comprehensive regional climate projections, giving a unique assessment of the changes our climate may see through the rest of this century.

Using these data, the Met Office has been able to give an insight into probable changes at RHS gardens across England to allow them make informed decisions on managing the changing climate and their gardens.

Met Office climate scientists are on hand in the 'Garden Energy' interactive feature garden at RHS Hampton Court Palace Flower Show this week to discuss the facts and fiction of climate change and advise on what our changing climate will mean to gardens and our lives.

Watch Peter Gibbs talk about climate change and gardening on YouTube

Further information on the effects of climate change on our gardens

How climate change could affect the weather in your region

Separating climate change fact from fiction (PDF, 997 kB)

Notes

- The Met Office Hadley Centre is the UK's foremost centre for climate change research. Mainly funded by DECC (the Department of Energy and Climate Change), Defra (the Department for Environment, Food and Rural Affairs) and the Ministry of Defence, it provides information and advice to the UK Government on climate change issues.
- The RHS Hampton Court Palace Flower Show runs from 7 to 12 July 2009.
- 'Now' figures are based on the long-term average from 1961 to 1990. Changes are based on the central estimate from UKCP09, using the medium emissions scenario.
- About the RHS: The RHS believes that gardening improves the quality of life and that everyone should have access to great garden experiences. As a charity, the RHS helps to bring gardening into people's lives and supports gardeners of all levels and abilities; whether they are expert horticulturists or children who are planting seeds for the very first time.
- How climate change could affect the weather in your region.